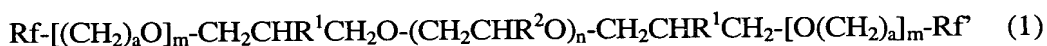


as the amount of the fluorochemical surfactant increases.

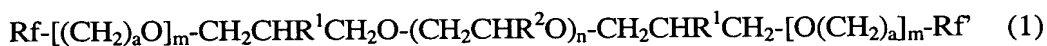
- 5A. The chemically amplified positive working resist composition of claim 6 wherein said fluorochemical surfactant is of the formula (1):



wherein R^1 is hydrogen, a hydroxyl group, a straight, branched or cyclic alkoxy group of 1 to 6 carbon atoms, or an alkylcarbonyloxy group whose alkyl moiety has 1 to 6 carbon atoms, R^2 is hydrogen or a straight, branched or cyclic alkyl group of 1 to 6 carbon atoms, a is a positive integer of 0 to 6, m is equal to 0 or 1, and n is a positive integer of 1 to 40, each of Rf and Rf' , which may be the same or different, is a straight, branched or cyclic fluoroalkyl group having 1 to 12 carbon atoms, wherein all groups attached to its carbon atoms are fluorine atoms or some are fluorine atoms and the remainder are hydrogen atoms.

- AI cut 8. A chemically amplified negative working resist composition comprising:
- an alkali-soluble resin;
 - a crosslinking agent having a group reactive with the alkali-soluble resin in an acidic condition;
 - a photo-acid generator capable of generating acid upon exposure to deep UV, X-rays or electron beams; and
 - a fluorochemical surfactant functioning to reduce the contact angle at the interface between the surface of the resist composition coated onto a substrate and water or an aqueous base developer as the amount of the fluorochemical surfactant increases.

9. The chemically amplified negative working resist composition of claim 8 wherein said fluorochemical surfactant is of the formula (1):



wherein R^1 is hydrogen, a hydroxyl group, a straight, branched or cyclic alkoxy group of 1 to 6 carbon atoms, or an alkylcarbonyloxy group whose alkyl moiety has 1 to 6 carbon atoms, R^2 is hydrogen or a straight, branched or cyclic alkyl group of 1 to 6 carbon atoms, a is a positive integer of 0 to 6, m is equal to 0 or 1, and n is a positive integer of 1 to 40, each of R_f and R_f' , which may be the same or different, is a straight, branched or cyclic fluoroalkyl group having 1 to 12 carbon atoms, wherein all groups attached to its carbon atoms are fluorine atoms or some are fluorine atoms and the remainder are hydrogen atoms.

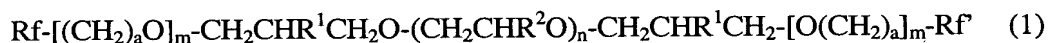
~~6~~ 10. A resist composition for g-line or i-line comprising:

a novolak resin;

a naphtoquinonediazide compound; and

a fluorochemical surfactant functioning to reduce the contact angle at the interface between the surface of the resist composition coated onto a substrate and water or an aqueous base developer as the amount of the fluorochemical surfactant increases.

7 11. The resist composition of claim 10 wherein said fluorochemical surfactant is of the formula (1):



wherein R^1 is hydrogen, a hydroxyl group, a straight, branched or cyclic alkoxy group of 1 to 6 carbon atoms, or an alkylcarbonyloxy group whose alkyl moiety has 1 to 6 carbon atoms, R^2 is hydrogen or a straight, branched or cyclic alkyl group of 1 to 6 carbon atoms, a is a positive integer of 0 to 6, m is equal to 0 or 1, and n is a positive integer of 1 to 40, each of R_f and R_f' , which may be the same or different, is a straight, branched or cyclic fluoroalkyl group having 1 to 12 carbon atoms, wherein all groups attached to its carbon atoms are fluorine atoms or some are fluorine atoms and the remainder are hydrogen atoms.

8 ~~12~~. The resist composition of claim 2 wherein R^1 is a hydroxyl, methoxy or acetoxy.

9 ~~13~~. The resist composition of claim 2 wherein R^2 a hydrogen or methyl.

10 ~~14~~. The resist composition of claim 2 wherein a is a positive integer of 0 to 2.

11 ~~15~~. The resist composition of claim 2 wherein n is a positive integer of 2 to 8.

12 ~~16~~. The resist composition of claim 2 wherein R_f and R_f' are, independently, perfluorobutyl, perfluorohexyl, perfluorooctyl, perfluorodecyl, perfluoro-3-methylbutyl, perfluoro-5-methylhexyl, perfluoro-7-methyloctyl, perfluoro-9-methyldecyl, 2H-tetrafluoroethyl, 4H-octafluorobutyl, 6H-dodecafluorohexyl, or 8H-hexadecafluorooctyl.

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cont
13 ~~17~~. The resist composition of claim 1 wherein the fluorochemical surfactant is blended in the resist composition in an amount of 10 to 2,000 parts by weight per million parts by weight of the composition.

14 ~~18~~. The resist composition of claim 1 wherein the fluorochemical surfactant is blended in the resist composition in an amount of 50 to 700 parts by weight per million parts by weight of the composition.

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19. The resist composition of claim 5 wherein the base polymer is polyhydroxystyrene, poly[(t-butyl acrylate)-(hydroxystyrene)] copolymer, poly[(t-butyl methacrylate)-(methyl methacrylate)-(polymethacrylic acid)] copolymer, or poly[(t-butyl-5-norbornene-2-carboxylate)-(maleic anhydride)-(5-norbornene-2,3-dicarboxylic anhydride)] copolymer.--